

WHAT IS CLAIMED IS:

1. A calibration method for a printer,  
comprising:

5 a patch outputting step for effecting print output  
of patch, from a print apparatus, on the basis of patch  
data based on a predetermined number of binarizing  
processing conditions fewer than plural binarizing  
processing conditions usable for generating data for  
print output;

10 a first acquiring step for acquiring first print  
output characteristics information and first  
calibration information for the predetermined number of  
binarizing processing conditions on the basis of read  
result of said patch and the patch data;

15 a measuring step for effecting output of said  
patch and measurement of said patch on the basis of the  
patch data based on the predetermined number of  
binarizing processing condition in said print apparatus  
at a predetermined timing;

20 a second acquiring step for acquiring second print  
output characteristics information for the  
predetermined number of binarizing processing condition  
on the basis of measured result of said patch and the  
patch data based on the predetermined number of  
25 binarizing processing condition;

a generating step for generating correction data  
for the predetermined number of binarizing processing

condition on the basis of the first print output characteristics information and the second print output characteristics information; and

a third acquiring step for acquiring second calibration information for the predetermined number of binarizing processing conditions by correcting the first calibration information on the basis of the generated correction data.

10           2. A method according to claim 1, wherein the binarizing processing is a dither method.

15           3. A method according to claim 2, wherein the plural binarizing processings effect binarizing processing on the basis of different halftone patterns.

20           4. A method according to claim 1, wherein the calibration information is information of gamma correction table, and, in said measuring step, before the output of said patch, maximum density of the print output characteristics in said print apparatus is adjusted to a predetermined value.

25           5. A method according to claim 1, wherein, in said second acquiring step, if the acquisition of the first calibration information is not effected, the second calibration information is acquired by using

only the second print output characteristics  
information.

5 6. An image processing method for generating data  
for print output, comprising:

10 a selection step for selecting calibration  
information corresponding to one of a predetermined  
number of binarizing processing conditions fewer than  
plural binarizing processing conditions usable for  
generating the data for print output, in accordance  
with a binarizing processing condition set in  
binarizing processing;

15 a correction step for correcting print output  
characteristics for the data by using the selected  
calibration information; and

20 a binarizing step for effecting binarizing  
processing of the data under the binarizing processing  
condition corresponding to the selected calibration  
information.

7. A method according to claim 6, wherein the  
binarizing processing is a dither method.

25 8. A method according to claim 7, wherein the  
plural binarizing processings effect binarizing  
processing on the basis of different halftone patterns.

9. A method according to claim 6, wherein the calibration information is information of gamma correction table.

5           10. A print system including a print apparatus and a host apparatus for controlling print of said print apparatus and adapted to make point output characteristics of said print apparatus constant, comprising:

10           patch outputting means for effecting print output of patch, from a print apparatus, on the basis of patch data based on a predetermined number of binarizing processing conditions fewer than plural binarizing processing conditions usable for generating data for  
15           print output;

            first acquiring means for acquiring first print output characteristics information and first calibration information for the predetermined number of binarizing processing conditions on the basis of read  
20           result of said patch and the patch data;

            patch output measuring means for effecting output of said patch and measurement of said patch on the basis of the patch data based on the predetermined number of binarizing processing conditions in said  
25           print apparatus at a predetermined timing;

            characteristics information acquiring means for acquiring second print output characteristics

information for the predetermined number of binarizing  
processing conditions on the basis of measured result  
of said patch and the patch data based on the  
predetermined number of binarizing processing  
5 conditions;

correction data generating means for generating  
correction data for the predetermined number of  
binarizing processing conditions on the basis of the  
first print output characteristics information and the  
10 second print output characteristics information;

second acquiring means for acquiring second  
calibration information for the predetermined number of  
binarizing processing conditions by correcting the  
first calibration information on the basis of the  
15 generated correction data;

selection means for selecting calibration  
information corresponding to one of the predetermined  
number of binarizing processing conditions fewer than  
the plural binarizing processing conditions, in  
20 accordance with set binarizing processing condition;

correction means for correcting print output  
characteristics for the data by using the selected  
calibration information; and

processing means for effecting binarizing  
25 processing of the data under the binarizing processing  
condition corresponding to the selected calibration  
information.

11. A print system according to claim 10, wherein the binarizing processing is a dither method.

12. A print system according to claim 11, wherein  
5 the binarizing processing effects binarizing processing on the basis of different halftone pattern.

13. A print system according to claim 10, wherein the calibration information is information of gamma  
10 correction table, and, in said patch output measuring means, before the output of said patch, maximum density of the print output characteristics in said print apparatus is adjusted to a predetermined value.

14. A print system according to claim 10,  
15 wherein, in said characteristics information acquiring means, if the acquisition of the first calibration information is not effected, the second calibration information is acquired by using only the second print  
20 output characteristics information.

15. A print apparatus comprising:

first storing means for storing first print output characteristics information and first calibration  
25 information acquired on the basis of read result of patch and patch data and downloaded from a host apparatus with respect to a predetermined number of

binarizing processing conditions fewer than plural  
binarizing processing conditions usable for generating  
data for print output, said patch being outputted from  
said print apparatus on the basis of said patch data

5 based on said predetermined number of binarizing  
processing conditions;

patch output measuring means for effecting output  
of said patch and measurement of said patch on the  
basis of the patch data based on the predetermined  
10 number of binarizing processing conditions at a  
predetermined timing;

characteristics information acquiring means for  
acquiring second print output characteristics  
information for the predetermined number of binarizing  
15 processing conditions on the basis of measured result  
of said patch and the patch data based on the  
predetermined number of binarizing processing  
conditions;

second storing means for storing the second print  
20 output characteristics information and second  
calibration information for the predetermined number of  
binarizing processing conditions;

correction data generating means for generating  
correction data for the predetermined number of  
25 binarizing processing conditions on the basis of the  
first print output characteristics information stored  
in said first storing means and the second print output

characteristics information stored in said second  
storing means;

calibration information generating means for  
generating the second calibration information for the  
5 predetermined number of binarizing processing  
conditions by correcting the first calibration  
information on the basis of the correction data  
generated by said correction data generating means;

selection means for selecting calibration  
10 information corresponding to one of the predetermined  
number of binarizing processing conditions fewer than  
the plural binarizing processing conditions, in  
accordance with a binarizing processing condition set  
in binarizing processing;

15 correction means for correcting print output  
characteristics for the data by using the selected  
calibration information; and

processing means for effecting binarizing  
processing of the data under the binarizing processing  
20 condition corresponding to the selected calibration  
information.

16. A storage medium which stored a program  
readable by an information processing apparatus, said  
25 program comprising:

a patch outputting step for effecting print output  
of patch, from a print apparatus, on the basis of patch



data based on a predetermined number of binarizing processing conditions fewer than plural binarizing processing conditions usable for generating data for print output;

5           a first acquiring step for acquiring first print output characteristics information and first calibration information for the predetermined number of binarizing processing conditions on the basis of read result of said patch and the patch data;

10           a measuring step for effecting output of said patch and measurement of said patch on the basis of the patch data based on the predetermined number of binarizing processing conditions in said print apparatus at a predetermined timing;

15           a second acquiring step for acquiring second print output characteristics information for the predetermined number of binarizing processing conditions on the basis of measured result of said patch and the patch data based on the predetermined number of binarizing processing conditions;

20           a generating step for generating correction data for the predetermined number of binarizing processing conditions on the basis of the first print output characteristics information and the second print output characteristics information; and

25           a third acquiring step for acquiring second calibration information for the predetermined number of

binarizing processing conditions by correcting the first calibration information on the basis of the generated correction data.

5           17. A storage medium which stored a program readable by an information processing apparatus, said program comprising:

          a selection step for selecting calibration information corresponding to one of a predetermined  
10       number of binarizing processing conditions fewer than plural binarizing processing conditions usable for generating the data for print output, in accordance with a binarizing processing condition set in binarizing processing;

15           a correction step for correcting print output characteristics for the data by using the selected calibration information; and

          a binarizing step for effecting binarizing processing of the data under the binarizing processing  
20       condition corresponding to the selected calibration information.

          18. A program for calibration processing for making print output characteristics of a print  
25       apparatus constant, said program including codes for executing processing comprising the steps of:

          effecting print output of patch, from a print

apparatus, on the basis of patch data based on a predetermined number of binarizing processing conditions fewer than plural binarizing processing conditions usable for generating data for print output;

5           acquiring first print output characteristics information and first calibration information for the predetermined number of binarizing processing conditions on the basis of read result of said patch and the patch data;

10           effecting output of said patch and measurement of said patch on the basis of the patch data based on the predetermined number of binarizing processing conditions in said print apparatus at a predetermined timing;

15           acquiring second print output characteristics information for the predetermined number of binarizing processing conditions on the basis of measured result of said patch and the patch data based on the predetermined number of binarizing processing

20           conditions;

            generating correction data for the predetermined number of binarizing processing conditions on the basis of the first print output characteristics information and the second print output characteristics information; and

25           acquiring second calibration information for the predetermined number of binarizing processing

conditions by correcting the first calibration information on the basis of the generated correction data.

5           19. A program for calibration processing for making print output characteristics of a print apparatus constant, said program including codes for executing processings comprising the steps of:

10               selecting calibration information corresponding to one of a predetermined number of binarizing processing conditions fewer than plural binarizing processing conditions usable for generating the data for print output, in accordance with a binarizing processing condition set in binarizing processing;

15               correcting print output characteristics for the data by using the selected calibration information; and

              effecting image processing of the data under the binarizing processing condition corresponding to the selected calibration information.

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              20. An image processing method for effecting halftone processing by using different patterns in correspondence with kinds of objects, comprising the steps of:

25               effecting calibration with respect to representative patterns among a plurality of patterns included in said image processing method; and

using a calibration result of a pattern having more similar output density characteristics among said representative patterns, with respect to patterns other than said representative patterns.

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